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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,089	06/27/2003	Bill Baggenstoss	MICS:0098	7574

7590 05/11/2006

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EXAMINER	
MENZ, DOUGLAS M	

ART UNIT	PAPER NUMBER
2891	

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/609,089	BAGGENSTOSS, BILL	
	Examiner	Art Unit	
	Douglas M. Menz	2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,8-23,26-36 and 58-63* is/are pending in the application.

4a) Of the above claim(s) *9-19,27-36 and 58-63* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,20-23 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claims 59-63 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 59-63 pertain to a species of the claimed invention, which is directed to memory elements positioned with respect to the wordlines, whereas the originally claimed invention has memory elements positioned with respect to the substrate.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 59-63 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 3-5, 8, 20-21 and 23, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (US 6020235).

Regarding claim 1, Chang discloses a plurality of generally elliptical capacitive memory elements (*The shaded region in Fig. 3 which defines the extra capacitor area is oblong with sharp edges, however, physically implementing such a structure would yield a device with rounded edges. Therefore, the examiner concludes that Chang anticipates capacitive memory elements that are* ***generally*** *elliptical*), each capacitive memory element having a first electrode (13, Fig. 1a) with an interior portion forming a pair of concentric sidewalls extending perpendicularly from a substrate (*starting from the bottom of 13,Fig. 1a, the electrode makes a symmetrical step upward in opposing horizontal directions thus producing a pair of concentric sidewalls extending perpendicularly from a substrate*)

the plurality of capacitive memory elements disposed on a substrate so that an axis that runs longitudinally through one of the plurality of capacitive memory elements is not generally parallel with an edge of the substrate (Fig. 3 and Col. 2, lines: 50-65).

Regarding claim 2, Chang further discloses wherein the axis is not generally perpendicular with an orthogonal edge of the substrate (Fig. 3 and Col. 2, lines: 50-65).

Regarding claim 4, Chang further discloses wherein the substrate comprises a memory device (Fig. 3 and Col. 1, 34-47).

Regarding claim 5, Chang further discloses wherein the substrate comprises an integrated circuit device (Fig. 3 and Col. 1, lines:7-10).

Regarding claim 8, Chang further discloses wherein each of the plurality of capacitive memory elements is slanted with respect to the edge of the substrate (Fig. 3 and Col. 2, lines: 50-65).

Regarding claim 20, Chang discloses an integrated circuit device, comprising: a memory array that includes a plurality of memory cells disposed on the substrate, the memory array comprising a plurality of capacitive memory elements, each of the capacitive memory elements being associated with one of the plurality of memory cells, each capacitive memory element having a first electrode (13, Fig. 1a) with an interior portion forming a pair of concentric sidewalls extending perpendicularly from the substrate (*starting from the bottom of 13,Fig. 1a, the electrode makes a symmetrical step upward in opposing horizontal directions thus producing a pair of concentric sidewalls extending perpendicularly from a substrate*)

the plurality of capacitive memory elements being disposed on the substrate so that an axis that runs longitudinally through one of the plurality of

capacitive memory elements is not generally parallel with an edge of the substrate (Fig. 3 and Col. 2, lines: 50-65).

Regarding claim 21, Chang further discloses wherein the axis is not generally perpendicular with an orthogonal edge of the substrate (Fig. 3 and Col. 2, lines: 50-65).

Regarding claim 23, Chang further discloses wherein the substrate comprises a memory device (Fig. 3 and Col. 1, 34-47).

Regarding claim 26, Chang further discloses wherein each of the plurality of capacitive memory elements is slanted with respect to the edge of the substrate (Fig. 3 and Col. 2, lines: 50-65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (US 6020235) in view of Momohara (US 6055655).

Regarding claims 3 and 22, Chang discloses the structure of claims 1 and 20 as mentioned above, however, Chang does not explicitly disclose wherein the substrate comprises a processor.

Momohara discloses a system-on-silicon i.e. processor and memory on the same substrate (Figs. 1a-b and Col. 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Chang's memory structure into Momohara's system on a chip for the purpose of reducing the size and cost as taught by Momohara (Col. 1).

Response to Arguments

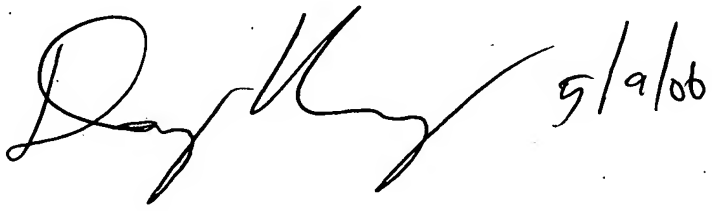
Applicant's arguments filed 3/20/06 have been fully considered but they are not persuasive. Applicant argues that the Chang reference does not disclose "a first electrode with an interior portion forming a pair of concentric sidewalls extending perpendicularly from a substrate." Applicant states that the Chang reference discloses a memory cell having a shell-shaped electrode that extends parallel to a substrate. Applicant is correct in that Chang does disclose a shell-shaped electrode, however, **Chang also discloses that an interior portion of the electrode forms a pair of concentric sidewalls as mentioned above.**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M. Menz whose telephone number is 571-272-1877. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DM  5/9/06